

Remarks:

This is in response to the Office Action dated April 11, 2007. Reexamination and reconsideration are respectfully requested.

The specification is amended to correct an erroneous identification number, which is correctly shown in FIG. 5 of the original application.

Applicant amends claims 1 and 2 to correct grammar errors and to provide more precise antecedent basis. These amendments do not vary the scope of claims 1 or 2. Applicant amends claim 8 to broaden the claim.

The Office Action rejects claims 1-9 and 11-12 as anticipated by U.S. Patent No. 5,060,208 to Nagai, et al. Applicant respectfully submits that the Nagai patent does not describe or suggest testing the timing characteristics of an electrical channel between an optical drive controller and a laser diode driver. Rather, the Nagai patent describes measuring the delay associated with heating a magneto-optical disc. This is illustrated in FIG. 1, which shows that the temperature distribution 142 is delayed with respect to the light intensity distribution 141. The Nagai patent teaches accommodating this delay by delaying the modulation of the magnetic head – nothing is done to alter the operation of the laser drive circuit 4.

In the magneto-optical disc system illustrated in FIG. 2 and also on the face sheet of the Nagai patent, data are written by modulating the magnetic head 5 through the magnetic head drive circuit 10. Nagai patent, 4:50-53. Data are not provided to the laser diode 3 or to the laser diode drive circuit 4. Rather, the laser diode 3 is regularly pulsed to provide regular spots on the disc in which data may be stored using the magnetic head 5. The test pattern signal 301 referenced in the Office Action is provided to the data modulation circuit 41 which is connected only to the magnetic head drive circuit 10. Nagai patent, 6:23-35. There is no way in which the test pattern signal 301 connects to the laser drive circuit 4 or to the laser 3 or tests the line 4A between the controller and the laser drive circuit 4.

Moreover, as shown in FIG. 2 of Nagai patent, the shift signal 305 from the timing shift detection circuit is processed by the write clock adjustment circuit 28, the clock switching circuit 30 and the data modulation circuit 41 so that the timing characteristics are included in the modulated data 34 to adjust the magnetic head drive circuit 10 and the magnetic head 5. These timing characteristics are not provided to the laser diode 3 or the laser diode drive circuit 4. Moreover, the gate command 4A controlling the laser diode 3 and the laser diode drive circuit 4 is regularly generated corresponding to the rotation of the disk 1 so that the gate command 4A is generated according to when the recording area on disk 1 rotates into position. Nagai patent, 6:37-42. This further illustrates that the Nagai patent does not describe or suggest testing the timing characteristics of the channel used to control the laser diode driver.

The only signal that is provided to the laser drive circuit 4 (FIG. 2) is the gate command provided on the line 4A. What the gate command does is instruct the laser drive circuit to output at low power for a read function or at high power for a write function. Nagai patent, 4:29-36. The Nagai patent does not describe the controller providing any timing signals over the line 4A only a read or write command is passed between the controller and the laser drive circuit 4. Because it is completely irrelevant to the delay observed by the Nagai patent, the Nagai patent system does not test and does not suggest testing the electrical channel 4A between the controller and the laser drive circuit 4.

Moreover, the Nagai patent system does nothing to alter the signals provided to the laser drive circuit 4 or to alter the operating conditions of the laser drive circuit 4. This is emphasized in the following statement of the Nagai patent: "The laser drive circuit 4 may employ the circuit arrangement used by a conventional write-once type optical disk." Nagai patent, 4:36-38. Thus, nothing is done to change the timing of the laser drive circuit 4.

Thus, the Nagai patent does not teach or suggest the invention of claim 1. For example, claim 1 recites in part “the optical drive controller testing timing characteristics of an electrical channel between the optical drive controller and a laser diode driver ...,” which is not true of the Nagai patent. As discussed above, the Nagai patent does nothing to test the line 4A between the controller and laser drive circuit 4. Rather, the Nagai patent outputs a test pattern signal 301 over line 34 to the magnetic head drive circuit 10 to test the delay associated with heating the magneto-optical disk 1. Nothing in the other art of record teaches or suggests modifying the Nagai patent in this regard. Consequently, claim 1 and its dependent claims distinguish over the art of record and are in condition for allowance.

Furthermore, claim 1 recites “generating a set of calibration signals to program a drive characteristic associated with a laser diode driver, the set of calibration signals responsive to the timing characteristics tested by the optical drive controller ...,” which is not true of the Nagai patent. As discussed above, the Nagai patent does nothing to alter the signal provided to the laser drive circuit 4 or to alter the characteristics of the laser drive circuit 4 itself. Nothing in the other art of record teaches or suggests modifying the Nagai patent in this regard. Consequently, for this additional reason, claim 1 and its dependent claims distinguish over the art of record and are in condition for allowance.

The Office Action rejects claim 8 as anticipated by the Nagai patent. Claim 8 distinguishes over the Nagai patent in a number of ways including by reciting “the optical drive controller outputting timing test signals over the WSR channel.” The WSR channel carries write strategy and related clock signals from the controller to the laser diode driver. The Nagai patent does not cause any test signals to be provided from the controller to its laser drive circuit 4 and instead provides test signals over line 34 to the magnetic head drive circuit 10. None of the other prior art of record suggests or motivates modifying this aspect of the Nagai patent’s

disclosure. As such, claim 8 and its dependent claims distinguish over the art of record and are in condition for allowance.

Claim 8 further recites, "the laser diode driver receiving the timing test signals from the WSR channel and characterizing the WSR channel and responsively generating a monitor signal responsive to timing characteristics of the WSR channel, the laser diode driver providing the monitor signal over the WSR channel to the optical drive controller." This is not true of the circuits described in the Nagai patent, where the laser drive circuit 4 does not receive any timing test signals and does not, in any way, characterize the WSR channel. Nothing in the Nagai patent suggests that the laser drive circuit 4 has any characterization or analysis circuitry and nothing in the other cited art shows or suggests implementing characterization within the laser drive circuit 4 of the Nagai patent. Similarly, nothing in the Nagai patent or the other art of record suggests or describes the laser drive circuit 4 providing a signal to the controller. As such, claim 8 and its dependent claims distinguish over the art of record and are in condition for allowance.

The Office Action cites the Wang patent, U.S. Patent No. 6,944,109, against dependent claim 10 as rendering the claim obvious in light of Official Notice. Prior Office Actions have conceded that the Wang patent does not meet the limitations of claim 8. Consequently, the applicant presumes that the Office Action intended to cite the Wang patent as a secondary reference in combination with the Nagai patent. The Nagai patent fails to meet a number of limitations of claim 8 and the Wang patent does not cure these defects. As such, claim 10 distinguishes over the art of record and is in condition for allowance.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

Appl. No. 10/623,264
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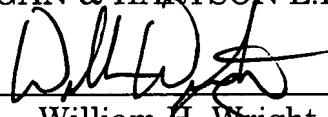
Attorney Docket No. 81842.0016
Customer No. 26021

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 785-4600 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

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